

WHAT IS CLAIMED IS:

5 1. A medical pump monitor system using a plurality of medical pumps to administer medical fluids and the like for a patient, monitoring flows of delivered fluids and alarm information of the medical pumps through cable communication and/or wireless communication,

10 wherein infusion circuitry creating means for setting/changing the connection conditions of infusion lines from the plurality of medical pumps, and administration passes and/or administration positions for the patient is provided, and it is made possible to display infusion circuitry data created in the infusion circuitry creating means on a monitor screen by operations by an operator of the medical pump monitor system.

15 2. The pump monitor system according to claim 1, wherein reading means for reading an infusion circuitry diagram such as a handwritten diagram in the medical pump monitor system is provided, and it is made possible to make a choice
20 by operator's operations on whether infusion circuitry information to be displayed during operation of the medical pump monitor system is information created using the infusion circuitry creating means or information created using said infusion circuitry diagram reading means.

25 3. The medical pump monitor system according to claim 1, wherein said infusion circuitry creating means displays a

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sketch of the patient with respect to determination of the
administration position for the patient, and inputting in
the medical pump monitor system any position information
in the sketch, thereby making a determination as
5 administration closest to the inputted position
information.

4. The medical pump monitor system according to claim 1,
wherein said infusion circuitry creating means further
10 comprises determining means for making a check for the
infusion line not suited to a practical method for
transfusion.

5. The medical pump monitor system according to claim 1,
15 wherein said fluid delivery circuitry creation means can
select an optimal pump arrangement pattern from a plurality
of pump arrangement patterns registered in advance.

6. The medical pump monitor system according to claim 1,
20 wherein the determining means makes a determination on
existence of loop-shaped lines in the infusion line, and
gives an alarm to the operator if there exist a loop shaped
line.

25 7. The medical pump monitor system according to claim 1,
wherein the determining means determines whether two or
more of the infusion lines run directly from the medical

pump, and gives an alarm to the operator if two or more of infusion lines run directly therefrom.

8. The medical pump monitor system according to claim 1,
5 wherein the determining means determines whether the infusion line is ended at some midpoint without reaching the patient, and gives an alarm to the operator of the medical pump monitor system if the infusion line is ended at some midpoint.

10 9. The medical pump monitor system according to claim 1, wherein the determining means determines whether the infusion line is necessarily formed towards at least one position of the patient from the medical pump, and gives
15 an alarm to the operator if the infusion line is not necessarily formed towards at least one position of the patient from the medical pump.

20 10. The medical pump monitor system according to claim 1, wherein the determining means determines whether the infusion line inserted into a specified portion of the patient is inserted into the patient again, and gives an alarm to the operator if the infusion line inserted into a specified portion of the patient is inserted into the
25 patient again.

11. The medical pump monitor system according to claim 1,
 wherein the determining means determines whether the
 infusion line from the operating medical pump is not
 connected to the patient, and gives an alarm to the operator
 5 if the infusion line from the operating medical pump is not
 connected to the patient.

12. The medical pump monitor system according to claim 1,
 wherein the monitor screen can display thereon real-time
 10 states or trends in arbitrary time ranges for at least any
 one of the amount of water, the urinary volume and the amount
 of electrolytes.

13. A controlling method for a medical pump monitor system
 15 using a plurality of medical pumps to administer medical
 fluids and the like for a patient, monitoring flows of
 delivered fluids and alarm information of the medical pumps
 through cable communication and/or wireless communication,
 comprising:

20 an infusion circuitry creating step of
 setting/changing the connection conditions of infusion
 lines from the plurality of medical pumps, and
 administration passes and/or administration positions for
 the patient; and

25 a step of making it possible to display infusion
 circuitry data created in the infusion circuitry creating

means on a monitor screen by operations by an operator of the medical pump monitor system.

14. A computer readable memory storing therein program codes for controlling a medical pump monitor system using a plurality of medical pumps to administer medical fluids and the like for a patient, monitoring flows of delivered fluids and alarm information of the medical pumps through cable communication and/or wireless communication,

10 comprising program codes of:

an infusion circuitry creating step of setting/changing the connection conditions of infusion lines from the plurality of medical pumps, and administration passes and/or administration positions for the patient; and

a step of making it possible to display infusion circuitry data created in the infusion circuitry creating means on a monitor screen by operations by an operator of the medical pump monitor system.

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15. A real-time monitoring system performing real time communication with external apparatuses including one or more medical apparatuses, and controlling the external apparatuses and/or displaying the conditions of the

25 external apparatuses, comprising:

communicating means for communicating with the external apparatuses;

displaying means for displaying the conditions of the external apparatuses;

storing means for storing one or more past communication data obtained by the communicating means;

5 comparing means for comparing currently communicated data with past data; and

controlling means for controlling contents to be displayed on the displaying means, based on signals from the comparing means,

10 wherein the comparing means reduces the amount of the data and/or eliminates the amount of the data for the amount of signals to be sent to the controlling means, in the case where the past data and the current data are identical to each other in comparison with the case where the past data
15 and the current data are different from each other.

16. A real-time monitoring system performing real time communication with external apparatuses including one or more medical apparatuses, and controlling the external
20 apparatuses and/or displaying the conditions of the external apparatuses, comprising:

communicating means for communicating with the external apparatuses;

25 displaying means for displaying the conditions of the external apparatuses;

storing means for storing one or more past communication data obtained by the communicating means;

comparing means for comparing currently communicated data with past data; and

controlling means for controlling contents to be displayed on the displaying means, based on signals from the comparing means,

wherein the comparing means selectively sends only a portion where the past data and the current data are different from each other, for the signals to be sent to the controlling means.

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17. The real-time monitoring system according to claim 15, wherein the communicating means, the comparing means and the storing means are unified, and are separated from the displaying means and the controlling means.

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18. The real-time monitoring system according to claim 15, wherein the external apparatuses is medical apparatuses comprising communicating means such as infusion pumps and urinary volume meters, and contents that are displayed on the displaying means are operation and stop information, flows, alarm conditions from apparatuses, information of administrated drugs, administration information and patient information.

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19. A controlling method for a real-time monitoring system performing real time communication with external apparatuses including one or more medical apparatuses, and

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controlling the external apparatuses and/or displaying the conditions of the external apparatuses, comprising steps of:

- storing in storing means one or more past
5 communication data obtained by communicating means for communicating with the external apparatuses;
comparing currently communicated data with past data by comparing means; and
controlling contents to be displayed on the displaying
10 means, based on signals from the comparing means,
wherein said method comprises a step in which the comparing means performs control to reduce the amount of the data and/or eliminate the amount of the data for the amount of signals to be sent to the controlling means, in
15 the case where the past data and the current data are identical to each other in comparison with the case where the past data and the current data are different from each other.

- 20 20. A controlling method for a real-time monitoring system performing real time communication with external apparatuses including one or more medical apparatuses, and controlling the external apparatuses and/or displaying the conditions of the external apparatuses, comprising steps
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storing in storing means one or more past
communication data obtained by communicating means for
communicating with the external apparatuses;

5 comparing currently communicated data with past data
by comparing means; and

controlling contents to be displayed on the displaying
means, based on signals from the comparing means,

10 wherein said method comprises a step in which the
comparing means selectively sends only a portion where the
past data and the current data are different from each other,
for the signals to be sent to the controlling means.

21. A computer readable record medium storing therein
program codes of a controlling method for a real-time
15 monitoring system performing real time communication with
external apparatuses including one or more medical
apparatuses, and controlling the external apparatuses
and/or displaying the conditions of the external
apparatuses, comprising program codes of steps of:

20 storing in storing means one or more past
communication data obtained by communicating means for
communicating with the external apparatuses;

comparing currently communicated data with past data
by comparing means; and

25 controlling contents to be displayed on the displaying
means, based on signals from the comparing means,

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5 wherein said computer readable record medium
comprises a program code of a controlling step in which the
comparing means performs control to reduce the amount of
the data and/or eliminate the amount of the data for the
amount of signals to be sent to the controlling means, in
the case where the past data and the current data are
identical to each other in comparison with the case where
the past data and the current data are different from each
other.

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22. A computer readable record medium storing therein
program codes of a controlling method for a real-time
monitoring system performing real time communication with
external apparatuses including one or more medical
15 apparatuses, and controlling the external apparatuses
and/or displaying the conditions of the external
apparatuses, comprising program codes of steps of:

storing in storing means one or more past
communication data obtained by communicating means for
20 communicating with the external apparatuses;
comparing currently communicated data with past data
by comparing means; and

controlling contents to be displayed on the displaying
means, based on signals from the comparing means,

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wherein said computer readable record medium
comprises a program code of a step in which the comparing
means selectively sends only a portion where the past data

and the current data are different from each other, for the signals to be sent to the controlling means.

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